

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
12 January 2006 (12.01.2006)

PCT

(10) International Publication Number
WO 2006/004248 A1

(51) International Patent Classification⁷: **B01J 23/06**

(21) International Application Number:
PCT/KR2005/000698

(22) International Filing Date: 11 March 2005 (11.03.2005)

(25) Filing Language: Korean

(26) Publication Language: English

(30) Priority Data:
10-2004-0016412 11 March 2004 (11.03.2004) KR

(71) Applicant (for all designated States except US):
POSTECH FOUNDATION [KR/KR]; San 31, Hy-
oja-dong, Nam-gu, Pohang, Kyungbuk-do 790-784 (KR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **YI, Gyu-chul**
[KR/KR]; 9-2202 Faculty Apt. Jigok-dong, Nam-gu,
Pohang-si, Gyungbuk 790-390 (KR). **AN, Sung-jin**
[KR/KR]; Dept. Mater. Sci. & Eng., Pohang, Uni-
versity of Science & Technology(POSTECH), San31,
Hyoja-dong, Pohang, Gyungbuk 790-784 (KR).

(74) Agents: **KIM, Dong-jin** et al.; Marcopolo Bldg 3F,
720-20, Yeoksam-dong, Kangnam-gu, Seoul 135-080
(KR).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG,
MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH,
PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ,
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA,
ZM, ZW.

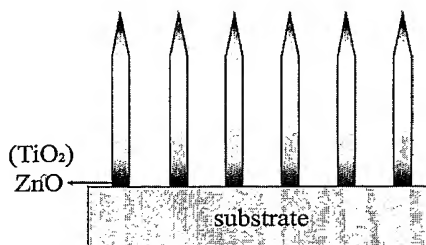
(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: PHOTOCATALYST INCLUDING OXIDE-BASED NANOMATERIAL



(57) Abstract: Disclosed is a photocatalyst having a matrix which comprises
a substrate and oxide-based nanomaterial formed on the substrate. The photo-
catalyst has a ratio of area to volume that is higher than a conventional photo-
catalyst having the same components, and also has a nano-sized photocatalyst
layer. Thereby, it has excellent photolytic properties.



WO 2006/004248 A1